DISTILLATION, IRELAND.

COPY OF

A REPORT from the Excise Officers appointed to inspect and superintend the Distillery Experiments with Mr. POTTINGER's Machinery at *Carrickfergus*.

Custom-House, Dublin, 6th January 1821.

HONOURED SIRS,

WE beg leave to report, That, agreeably to the orders of the Board, we have superintended the Experiments carried on at the distillery of Mr. *John Thompson*, of Carrickfergus, with Machinery invented by *Thomas Pottinger*, Esq. for securing the Duties on all Spirits made in licensed distilleries.

The object of this Machinery is two-fold. First: to keep the produce of the still out of the distiller's reach, during the process of distillation, by securing the mouth or discharge-pipe of the worm, so as to prevent his having access to the liquor running therefrom; and, at the same time, to allow him to examine the strength, heat, and colour of the spirits or singlings as they run. Secondly: to secure the casks, into which these liquors are run from the worm, in such a manner as to prevent the contents being carried away without being charged with duty, even should the officers be dishonest or negligent.

To effect the first of these objects, Mr. *Pottinger* has contrived a very ingenious, and at the same time a simple apparatus. A sufficient sample of the liquor running through the worm is drawn off by a small pipe, which conveys it into a glass jar, wherein an hydrometer is placed, which indicates the strength of the liquor, on a scale fixed outside the jar,—the heat being at the same time shown by a thermometer placed within. Over this jar, another (also of glass) is fixed, which precludes all access to the liquor or run from the worm, and cannot be removed without breaking it. The liquor that constantly overflows the interior jar, passes between the two jars into another small pipe, by which it is re-conducted into the worm, and conveyed to the spirits, singlings, or feints receiver, as the distiller may think proper, through one cock with three apertures, secured in a cast iron case, which cannot be removed without breaking it.

The apparatus for attaining Mr. *Pottinger's* second object is necessarily more complicated. The spirits, low wines, and feints receivers are covered (so much of them as is above ground) by cast iron plates, bolted by screws fastened on the inside. Each of these vessels is furnished with a ball-cock, to prevent its being filled above a certain height; and in each there is placed a very large copper ball attached to a pump, for the purpose of regulating the strength at which the liquor in the vessel may be pumped out. These balls are in fact large hydrometers, which, when the liquor in the receivers become stronger than the given or allowed standard, sink to the bottom of the vessel; and, by so doing, they open an air valve which communicates with the pump, and prevents its working. In addition to these devices, there is placed within the spirit receiver, a machine, by which the spirits are measured as they run from the worm, and the quantity registered by an index: the whole so secured as to be inaccessible to the distiller or the officers visiting him.

Every part of the Machinery, which we have been endeavouring to describe, does credit to Mr. *Pottinger's* ingenuity, and evinces a mind fertile in resources. We are happy to add, that the experiment has fully satisfied us the apparatus affixed to the worm (with some trifling improvements) will completely answer the purpose intended;

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by which means the run from the worm may be brought under the control of the Excise, in a manner never heretofore accomplished. Our experiments, however, served to show that this contrivance is best adapted to a slow process of distillation; and indeed, we much doubt that it could be adapted to the extraordinary rapid system of distilling at present carried on in Ireland.

We are not able to make so favourable a report of the Machinery erected by Mr. *Pottinger*, for accomplishing the second part of the plan: although very ingenious, it is complicated; and (as we found on experiment) liable, in most of its parts, to go frequently out of order. This would in itself be an insuperable objection to its adoption: but it is besides liable to another; namely, that its operation might be defeated by counter-contrivances on the part of the distiller. We do not, therefore, think this part of Mr. *Pottinger*'s plan would be productive of any good result to the revenue; but Mr. *Coffey*, one of our number, has suggested a different and simple description of apparatus, to be combined with that affixed by Mr. *Pottinger* to the worm; and we are most sanguine in our expectations, that by their united operation, the entire revenue can be secured on all Spirits made with the licensed utensils. The apparatus to effect this is now in a state of preparation.

Submitted by

James Taylor, Exam^{r} of G^{rs} Books.
Daniel Logie, Insp^{r} Gen^{l} Excise.
Æneas Coffey, Insp^{r} Gen^{l} Excise.

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